

REMARKS

Claims 1-39 are pending in the above-referenced patent application. Claims 1-2, 6-15, 19-28 and 32-39 were rejected under 35 USC 102(e) as being anticipated by USPN 6,032,202 to Lea et al ("Lea"). Claims 3-5, 16-18 and 29-31 were rejected under 35 USC 103(a) as being unpatentable over Lea in view of USPN 5,956,487 to Venkatraman et al ("Venkatraman").

Applicant wishes to thank the Examiners for the interview of June 18, 2003, in which the above rejections were discussed. The interview first focused on rejections of the claims under Lea. It was brought to the attention of the Patent Office that Lea does not provide a user interface description as claimed. And that, even if Lea can be somehow construed to provide a user interface description, Lea does not disclose that such a user interface description includes "one or more references associated with the device information of one or more devices currently connected to the network", as required by Claim 1, for example. It was further discussed that Lea does not teach the concept of using references in the user interface description, wherein the references provide access to information stored in devices connected to the network.

It was further discussed that unlike Lea, in the present invention rather than initially transferring the user interface data contained in each network device and storing each device's transferred user interface data in a general user interface description, references are included in the user interface description that refer to the user interface data of a device connected to the network. When the user interface data of a particular device is needed (e.g., for display to a user for command and control), then a reference in the general user interface description, corresponding to that particular device, is used to access that particular device's user interface data for display to a user, allowing command/control of the particular device via that user interface.

The Patent Office interpreted the words “reference” and “link” in the claims to mean any type of relationship between the user interface description and the user interface data that is stored in the device networks. As per Venkatraman, the Patent Office interprets hyper-text links 66-68 in Venkatraman can be used to access the printer device information that currently connects to the network. The claims have been amended herein under 37 CFR 1.116, to further clarify the patentable differences between the claimed invention and the references. No new matter has been added.

Rejection of Claims Under 35 U.S.C. 102(e)

Rejection of Claims 1-2, 6-15, 19-28 and 32-39 under 35 USC 102(e) as being anticipated by Lea is respectfully traverses because Lea does not disclose all of the limitations of the claims.

Further, the claims have been amended to specify that the information in each device includes device information for user interaction with that device. And, the amendments specify that a reference in a user interface description provides access to the device information in a corresponding device. The amendments further specify that a reference when activated provides access to the corresponding device information.

As those skilled in the art will recognize, and according to the specification, the term reference is used to indicate e.g. a electronic link that provides access from one document or resource to another document or resource. A hyper-text link is an example of a reference. The Patent Office can check any programming or computer related source to confirm that “link” has a specific meaning that does not lend itself to such broad definition as the Patent Office has adopted. For example, in the Office Action, in paragraph (a) and on pages 15-16, the Patent Office interprets icons in FIGS. 12A-12B of Lea representing an appliance, to be a user interface description including references as claimed herein. As such, the Patent Office interprets Lea’s

user interfaces for the devices to be references to those devices. For the above reasons, this interpretation of Lea is respectfully traversed. Lea's icons or menus are not user interface descriptions including references as claimed herein.

As per paragraphs (b) and (c) on page 16 of the Office Action, it is respectfully submitted that Lea transfers the user interface data contained in each network device and stores each device's transferred user interface data in a general user interface, whereas in the present invention references are included in the user interface description, wherein each reference refers to the user interface data of a device connected to the network. The references are used to obtain information from the corresponding devices, as claimed, and are not static representations of the devices such as Lea's icons.

Further, Lea does not disclose a method for providing a user interface for controlling devices that are currently connected to a network, by obtaining information from one or more of the devices currently connected to the network, generating a user interface description in each of said one or more devices based at least on the obtained information, the user interface description in each device including one or more references associated with the device information of one or more devices currently connected to the network, and then displaying user interfaces each based on one of said user interface descriptions, on devices connected to the network capable of displaying a user interface, for user control of said devices that are currently connected to the network, as required by Claim 1.

Specifically, in the Office Action, the Patent Office refers to Lea, col. 3, lines 5-12; col. 2, lines 57-67; and, col. 9, line 66 to col. 10, line 19, to reject Claim 1. In col. 3, lines 5-12, Lea simply states:

“Through the DCMs of the present invention, over the life time of the AV system, as new devices are added whose capabilities and features are unknown, or only partially known to other devices, a mechanism is provided which guarantees that all devices can be communicated with and controlled at some basic minimal level, and then where possible, as more information is obtained about the device, a better abstraction of the new device is created.”

Despite the Patent Office’s assumption, in the above passage Lea does not disclose the steps of generating a user interface for controlling devices that are currently connected to the network, by obtaining device information from one or more of the devices currently connected to the network, as required by Claim 1. Lea mentions a mechanism whereby devices can be communicated with and controlled at some basic minimal level. Indeed, there is no mention of generating a user interface for controlling devices that are currently connected to the network, as claimed herein.

The claimed invention obtains “device information” from devices currently connected to the network, generated a user interface description based on the obtained device information, and displays the user interface on the device for user interface and control. Accordingly, a user can select one or more devices through the displayed user interface, but cannot command and control the corresponding device through the displayed interface screen. In order to command and control a desired device selected through the displayed interface screen, a command and control screen through which a corresponding device can be commanded and controlled is displayed in response to the device selection. Then a user can command and control the corresponding device or devices through the command and control screen. By contrast, Lea relates to a method for displaying a command and control screen (col. 2, line 57 to col. 3, line 49; and col. 14, line 50, to col. 16, line 52). In other words, the limitation “device information” in the claimed invention has no relation to a device control concept in Lea, and this is patentably distinct from a DCM in

Lea.

Further, in col. 2, lines 57-67 (referenced by the Patent Office), Lea simply states:

“To implement the above features, the present invention includes an architecture that allows the newly coupled device to be queried. Using the results of the query, a software based abstraction of that device is generated and made available to other elements in the network. The software abstraction is referred to as a device control module. The device control module provides a predefined, standardized, set of interoperability, functionality, and control interfaces for the device. The CE device is coupled to and communicates with the home AV network via a device control module.”

Despite the Patent Office’s assumption, in the above passage Lea does not disclose any of the limitations in step (b) of Claim 1, including: generating a user interface description based at least on the obtained information, the user interface description in each device including one or more references associated with the device information of one or more devices currently connected to the network. In col. 2, lines 57-67, Lea only mentions that newly coupled devices are queried, and using the results of the query, a software based abstraction of that device is generated (i.e., device control module or DCM) and made available to other elements in the network. The DCM provides a predefined, standardized, set of interoperability, functionality, and control interfaces for the device. Therefore, Lea does not disclose a user interface description as claimed herein.

Even if Lea can be somehow construed to provide a user interface description, Lea does not disclose that such a user interface description includes one or more references associated with

the device information of one or more devices currently connected to the network, as required by Claim 1. Lea does not teach the concept of using references in the user interface description, wherein the references provide access to information stored in devices connected to the network.

As such, according to the claimed invention herein, rather than initially transferring the user interface data contained in each network device and storing each device's transferred user interface data in a general user interface description, references are included in the user interface description which refer to the user interface data of a device connected to the network. When the user interface data of a particular device is needed (e.g., for display to a user for command and control), then a reference in the general user interface description, corresponding to that particular device, is used to access that particular device's user interface data for display to a user, allowing command/control of the particular device via that user interface.

Further, in col. 9, line 66 to col. 10, line 19 (referenced by the Patent Office), Lea states:

“To allow one device to discover the capabilities of another device and to determine which command set to use with that device, a standard device description structure is provided called the self describing data (SDD) structure. The SDD data structure is extensible. It can be a small number of bytes describing the device type, e.g., TV, or VTR, etc. Alternatively, the SDD data structure can be a more complex structure also defining the override DCM and a graphical representation of the device. The graphical representation within the SDD data structure allows an FAV node to present a pictorial representation of the devices in the home network to users. By defining the graphical representation in a sufficiently generic manner, a device's SDD graphical data can be used in any vendor's product to display a user interface for that device. This provides an enhanced level of vendor interoperability and also allows a vendor to differentiate a product while maintaining within the general look and feel of the display device.

This enables a control device (the FAV node) to present a general control user interface for all devices in the home network, irrespective of the differences in type and vendor.”

As can be seen from the above passage, not only does Lea not disclose a user interface description as claimed, nor does Lea disclose displaying user interfaces, each based on one of said user interface descriptions, on devices connected to the network capable of displaying a user interface, for user control of said devices that are currently connected to the network, as required by Claim 1. Indeed, in the above passage, Lea clearly states that its system “... enables a control device (the FAV node) to present a general control user interface for all devices in the home network” By contrast, according to Claim 1 herein, user interface descriptions are generated independently by several network devices such as network devices capable of displaying user interfaces. Then different user interfaces are displayed on different network devices based on different user interface descriptions. Generating a user interface in each such device rather than generating a central user interface, allows each such device to show its own device icon/text preferentially in its user interface. As such, Lea does not teach any of said limitations in Claim 1. Therefore, for at least these reasons, Claim 1 and claims dependent therefrom, should be allowed.

As per Claim 2, Lea does not disclose the steps of, in each device: using each reference in the corresponding user interface description to access the associated information in each associated device, and generating the user interface including device data corresponding to each associated device using the accessed information in each associated device, and displaying the user interface on said device capable of displaying a user interface, as required by Claim 2.

In rejecting Claim 2, the Patent Office relies on Lea col. 9, line 66 to col. 10, line 19; and col. 17, lines 18-27. As discussed, Lea does not teach generating a user interface description, nor generating a user interface description including one or more references associated with the

device information of one or more devices currently connected to the network. In col. 17, lines 18-27 (relied upon by the Patent Office), Lea states: "Once instantiated, DCMs will provide not only control interfaces for the device, but also access to SDD data associated with a device. They will act as event managers for a device, receiving device specific events and posting those to the event system (see below). They will also act as UI manager for the device, interacting with the UI management system to provide a user interface via some display device. Lastly, the DCM will operate as a resource manager for devices, arbitrating requests made for device access and service."

However, in the above passage Lea does not disclose generating user interface descriptions as claimed. Further, Lea does not disclose placing references to device information, in such user interface descriptions. And, neither in the above passage nor elsewhere, does Lea disclose using each reference in a user interface description to access the associated information contained in a corresponding device to generate, and then display, a user interface for that device. Lea mentions a standard device description structure called the self describing data (SDD) structure (col. 10, lines 1-2), however, Lea does not teach using a reference in a corresponding user interface description to access the associated information in each device. Further, Lea does not disclose that each device has an SDD that is contained in that device, wherein that SDD is then accessed using references in a user interface description that is generated in another device. There is no reference to device information in Lea, inherent or otherwise, because the SDD information is downloaded from the devices by query, rather than via a reference (such as an address) pointer that provides direct access to such information in individual devices (col.2, lines 57-67 through col. 3, lines 1-4; col. 6, lines 40-48 and 58-67 through col. 7, lines 1-9). Therefore, at least for these reasons, and the reasons provided above in relation to Claim 1, rejection of Claim 2 should be withdrawn.

As per Claim 6, for the above reasons, Lea does not disclose connecting a client device to the network capable of displaying a user interface, and displaying a user interface on the client device using the references in a user interface description, for controlling devices that are currently connected to the network, as required by Claim 6. In rejecting Claim 6, the Patent Office relies on Lea, col. 24, lines 60-67 to col. 25, lines 11- 22. In that passage, Lea states:

“For example, assume a new device (e.g., a camcorder) is plugged into the HAVI network (e.g., 1394 based). This causes a bus reset. The bus reset is handled by the Communications media manager (CMM) on the IRD. The CMM is responsible for querying the SDD data of the Camcorder device to discover its capabilities. Assuming the device is a level 1 device, i.e. it does not have an uploadable DCM, then the CMM informs that Device Manager, that a new device has been installed. The Device Manager creates a new DCM for this type of device and registers the DCM with the registry. The DCM, when it initializes is free to query the device directly to find out more information about itself and to specialize itself if needed, e.g. it can access UI information if it exists in the device. Once the DCM is registered in the registry, then any other module can query the registry to get a handle for the device and communicate with the DCM to access and control the device and present the UI to the user. FIG. 12A and 12B show an exemplary UI display (e.g., on a television screen) for such a device (e.g., the camcorder). FIG. 12A shows a text menu display, where the user is presented with the various controls that can be modified using the control names and control values. For buttons, the user can select them (which equates to pushing a button). FIG. 12B shows a "next level" UI display for the camcorder. Here, the user selected the main panel from the menu in FIG. 12A, and the display presents controls based on their grouping information. In the present embodiment, group names are used on a tabbed interface to allow the user to navigate between groups

within the selected panel.”

Despite the Patent Office’s characterization, from the above passage it is clear that in Lea’s example, when a new device (e.g., camcorder) is connected to the network, a user interface for the new device cannot be displayed on the newly connected device itself. By contrast, Claim 6 herein requires the steps of connecting a client device to the network capable of displaying a user interface, and the displaying a user interface on the client device. Indeed, in FIGS. 12A and 12B Lea shows a UI display on a TV screen for the newly connected camcorder device. Further, in the above passage, Lea does not disclose displaying a user interface on the client device using the references in a user interface description, for controlling devices that are currently connected to the network, as required by Claim 6. If the Patent Office disagrees, Applicants respectfully request that the Patent Office set forth detailed reasoning and support therefore. As such, for at these reasons, and reasons provided above in relation to Claims 1-2, rejection of Claim 6 should be withdrawn.

As per Claim 7, for reasons described above, Lea does not disclose that the device information in each device further includes a user control interface description for user interaction with the device, and upon detecting user selection of a device from one of said user interfaces, accessing and then displaying the control interface description in the corresponding device for user command and control of the device, as required by Claim 7. As such, rejection of Claim 7 should be withdrawn.

As per Claim 8, for reasons described above, Lea does not disclose generating each user interface description such that the reference in that user interface description provides access to at least the information in each corresponding device, as required by Claim 8. As such, rejection of Claim 8 should be withdrawn.

As per Claim 9, for reasons described above, Lea does not disclose generating each user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device, as required by Claim 9. As such, rejection of Claim 9 should be withdrawn.

As per Claim 10, Lea does not disclose that the device information in each device includes device identification information. In col. 7, lines 20-27, referenced by the Patent Office, Lea does not teach the limitations of Claim 10, and certainly there is no mention of device identification information as claimed herein. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, rejection of Claim 10 should be withdrawn.

As per Claim 11, Lea does not disclose that the device information in each device includes a user control interface description for user interaction with the device, as required by Claim 11. Further, as discussed, Lea does not disclose the steps of generating any type of user interface description according to the claimed invention. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, rejection of Claim 11 should be withdrawn.

As per Claim 12, Lea does not disclose generating each user interface description such that each reference in the user interface description provides access to at least the user control interface description in each corresponding device, detecting user selection of a device from one of said user interfaces, and using a reference in the user interface description of the selected device to access the control interface description in the device and then display the control interface description as a control user interface for user command and control of the device, as required by Claim 12. As discussed, there is no user interface description, as claimed, generated in Lea. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, 7 and 11, rejection of Claim 12 should be withdrawn.

As per Claim 13, Lea does not disclose generating the user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device, the device data providing references to the user control interface description in each device, providing access to control interface description in the corresponding device, as required by Claim 13. As discussed, there is no user interface description generated in Lea. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2 and 11-12, rejection of Claim 13 should be withdrawn.

Independent Claim 14 was rejected for substantially the same reasons that the rejection of Claim 1. The rejection of Claim 14 is respectfully traversed for the reasons given above in relation to Claim 1. Further, Applicant believe that Lea does not disclose an agent in a device for obtaining information and generating a user interface description as required by Claim 14. Therefore, for at least these reasons, rejection of Claim 14, and all claims dependent therefrom, should be withdrawn.

Claims 15, 19, 20, 21, 22, 23, 24, 25 and 26 were rejected for substantially the same reasons as rejection of Claims 2, 6, 7, 8, 9, 10, 11, 12 and 13. The rejection of Claims 15, 19, 20, 21, 22, 23, 24, 25 and 26 is respectfully traversed for the reasons given above in relation to Claims 1, 2, 6, 7, 8, 9, 10, 11, 12 and 13. Further, Lea does not disclose multiple agents as claimed. Therefore, rejection of Claims 15, 19, 20, 21, 22, 23, 24, 25 and 26 should be withdrawn.

Independent Claim 27 was rejected for substantially the same reasons that the rejection of Claim 14. The rejection of Claim 27 is respectfully traversed for the reasons given above in relation to Claim 14. Further, Applicant believe that Lea does not disclose an agent in multiple devices for obtaining information and generating a user interface description as required by

Claim 27. Therefore, for at least these reasons, rejection of Claim 27, and all claims dependent therefrom, should be withdrawn.

Claims 28, 32, 33, 34, 35, 36, 37, 38 and 39 were rejected for substantially the same reasons as rejection of Claims 15, 19, 20, 22, 23, 24, 25 and 26. The rejection of Claims 28, 32, 33, 34, 35, 36, 37, 38 and 39 is respectfully traversed for the reasons given above in relation to Claims 14, 15, 19, 20, 22, 23, 24, 25 and 26. Therefore, rejection of Claims 28, 32, 33, 34, 35, 36, 37, 38 and 39 should be withdrawn.

Rejection of Claims Under 35 U.S.C. 103 (a)

Rejection of Claims 3-5, 16-18 and 29-31 under 35 USC 103(a) as being unpatentable over Lea in view of Venkatraman is respectfully traversed because the references, alone or in combination, do not disclose all of the limitations of the claims. No *prima facie* case of obviousness has been established.

As per Claims 3, 4 and 5, as the Patent Office also states, Lea does not disclose generating the user interface description by associating a hyper-text link with the device information of each of the devices connected to the network, as required by Claim 3. As the Patent Office further acknowledges, Lea does not disclose that the information in each device comprises an HTML page contained in that device, as required by Claim 4. Further, As the Patent Office further acknowledges, Lea does not disclose displaying the user interface on a browser on a device capable of displaying a user interface, as required by Claim 5.

However, the Patent Office concludes that Venkatraman, fig. 1A, fig. 2, col. 3, lines 5-61, and col. 5, lines 29-64, discloses such limitations of Claims 3, 4 and 5. Further, the Patent Office proposes a modification of Lea to associate a hyper-text link with the device information of one or more devices in Lea's method since HTML would allow the devices to interface with Internet,

from service providers, via HTTP protocol.

Rejection of the claims is respectfully traversed because the references, alone or in combination, do not teach or suggest the claimed limitations. No prima facie case of obviousness has been established.

Lea is directed to a method and system for providing interoperability and integration of a plurality of devices in a network. When a new device is coupled to a home audio video network, the device is queried to obtain a description of first level functions supported by the device, and generate a control module. The device is subsequently accessed via the control module in order to access its functions and provide interoperability and integration of the device with the plurality of devices in the network. (Abstract).

Venkatraman is directed to Web access functionality embedded in a device to enable low cost widely accessible and enhanced user interface functions for the device. A web server in the device provides access to the user interface functions for the device through a device web page. A network interface in the device enables access to the web page by a web browser such that a user of the web browser accesses the user interface functions for the device through the web page. (Abstract).

Venkatraman, col. 3, lines 5-61 (relied upon by the Patent Office), does not disclose generating a user interface description nor does Venkatraman disclose generating such a user interface description by associating a hyper-text link with the device information in each of said devices currently connected to the network, as required by Claim 3. Indeed, in col. 3, lines 5-61, Venkatraman simply states that Web access functionality is embedded in a device 10 using web server software for execution by a processor 200. There is no teaching in Venkatraman of associating a hyper-text link with the device information of each of said devices currently

connected to the network.

Further, the hyper-text links 66-68 in Venkatraman are not hyper-text links associated with the device information in each of said devices currently connected to the network, such that when each hyper-text link provides access from the user interface description to the device information in a corresponding device. That device information is for user interaction and/or control of that device. By contrast, Venkatraman states that the hyper-text links 66-68 “direct the web browser 40 to other web pages for various printer support functions. For example, the hyperlink 66 ‘Service Contract’ may be selected by the user with the selection device 44 to direct the web browser 40 to the URL ‘http://www.hp.com’ for information regarding printer service contracts. Similarly, hyperlinks 67 and 68 provide links to web pages for ordering printer supplies and obtaining information for future printer products from the manufacturer of the printer device 10.” (Col. 7, lines 5-14). It is respectfully submitted that the hyperlinks 66-68 are not for access to device information in the devices connected to the network, wherein the device information is for user interaction with and/or control of the devices.

One of ordinary skill in the art would not look to combine Lea and Venkatraman. Nor is there a motivation or suggestion in either reference to do so. Even if Lea and Venkatraman are combined as suggested by the Patent Office, the result does not teach or suggest the claimed invention. Further, such a combination would simply mean including a web server in each device of Lea. This provides no advantage for the purpose of Lea which is providing interoperability and integration of a plurality of devices in a network. Lea is simply not concerned with, nor is appropriate for, the Patent Office’s proposed modification to allow Lea’s devices to interface with Internet, from service providers, via HTTP protocol. At any rate, such a modified system does not teach the disclosure of Claim 3. Indeed, such a modified system teaches away from the claimed invention herein because

As per Claim 4, Venkatraman does not disclose that the information in each device comprises an HTML page contained in that device. Further, the web server software of Venkatraman does not provide HTML to other devices in a network. Further, as discussed, there is no motivation or use in combining Lea and Venkatraman, and such a combination does not teach the claimed invention herein. As such, rejection of Claim 4 should be withdrawn.

As per Claim 5, Venkatraman does not disclose displaying the user interface on a browser on a device connected to the network, capable of displaying a user interface, as required by Claim 5. In col. 5, lines 29-64, and figs. 1A, 2, Venkatraman describes that a browser 40 outside a home-based network, displays a user interface of a device 10, which is different than required by Claim 5. The browser 40 is used to query information from devices 10 and display that information. It is not a device within a home network that home network devices, which generate user interface descriptions, utilize to display user interfaces thereon based on the user interface descriptions, as claimed. Further, for the reasons above, one of ordinary skill in the art would not look to the cited references, or to combine them, to achieve the claimed invention herein. As such, rejection of Claim 5 should be withdrawn.

Claim 16 was rejected for the same reasons as Claim 3. The rejection of Claim 16 is respectfully traversed for the reasons given above in relation to Claim 3.

Claim 17 was rejected for the same reasons as Claim 4. The rejection of Claim 17 is respectfully traversed for the reasons given above in relation to Claim 4.

Claim 18 was rejected for the same reasons as Claim 5. The rejection of Claim 18 is respectfully traversed for the reasons given above in relation to Claim 5.

Claim 29 was rejected for the same reasons as Claim 16. The rejection of Claim 29 is respectfully traversed for the reasons given above in relation to Claim 16.

Claim 30 was rejected for the same reasons as Claim 17. The rejection of Claim 30 is respectfully traversed for the reasons given above in relation to Claim 17.

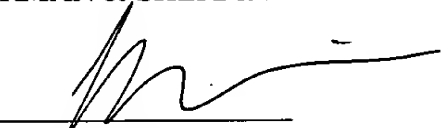
Claim 31 was rejected for the same reasons as Claim 18. The rejection of Claim 31 is respectfully traversed for the reasons given above in relation to Claim 18.

CONCLUSION

Accordingly, Applicants respectfully request that the rejections of the claims be withdrawn, and the claims, be allowed for at least the aforementioned reasons. If it is believed that a telephone interview will help further the prosecution of this case, Applicants respectfully request that the undersigned attorney be contacted at the listed telephone number.

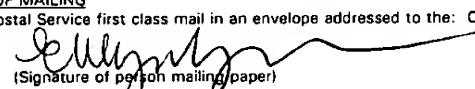
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